

What is claimed is:

1. A method for converting a Voice eXtensible Markup
5 Language (VoiceXML) tree generated after parsing a VoiceXML
document into an eXtensible HyperText Markup Language
(XHTML)+Voice tree, the method comprising the steps of:

(a) scanning the VoiceXML tree from an upper tag to a lower
tag with initializing the XHTML+Voice tree;

10 (b) checking a tag;

(c) if the tag is <menu>, converting the tag <menu> into a
tag <a> of the XHTML;

(d) if the tag is <grammar>, converting the tag <grammar>
into a tag <input type = radio> of the XHTML; and

15 (e) if the tag is <form>, adding the tag <form> of XHTML to
the XHTML tree and processing the tag <form>.

2. The method of claim 1, wherein the step (d) comprises
the steps of:

20 (d-1) converting tags <block> and <prompt> that belong to
the one tag <form> into a tag <p> of the XHTML;

(d-2) converting a tag <prompt> which belongs to tags <form>
and <field> into a tag <label> of the XHTML; and

(d-3) converting a tag <submit> which belongs to tags <form>
25 and <field> or a tag <block> into a tag <input type = submit> of

the XHTML.

3. The method of claim 1, wherein, in each of the steps
(d), an event/handler is defined after conversion, or the
5 VoiceXML is corrected or deleted.

4. The method of claim 2, wherein, in each of the steps
(d), an event/handler is defined after conversion, or the
VoiceXML is corrected or deleted.

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5. A multimodal service method using a system that
comprises a user terminal equipped with a general XHTML+Voice
browser, a proxy server and a web server providing a VoiceXML
document, and converts a VoiceXML document into an XHTML+Voice
15 document, the method comprising the steps of:

executing the XHTML+Voice browser and requesting the web
server to provide the VoiceXML document by submitting HTTP
request, at the user terminal;

transmitting the VoiceXML document to the proxy server from
20 the web server;

creating a VoiceXML tree from the received VoiceXML document
at a VoiceXML parser installed in the proxy server, and
transmitting the VoiceXML tree from the VoiceXML parser to a
VoiceXML-to-XHTML+Voice converter;

25 converting the received VoiceXML tree into a new XHTML+Voice

tree by means of a predetermined algorithm at the VoiceXML-to-XHTML+Voice converter, and transmitting the converted XHTML+Voice tree from the VoiceXML-to-XHTML+Voice converter to an XHTML+Voice document generator;

5 receiving the XHTML+Voice tree and generating an XHTML+Voice document at an XHTML+Voice document generator to transmit the generated XHTML+Voice document from the XHTML+Voice document generator to the XHTML+Voice browser; and

10 interpreting and executing the XHTML+Voice document at the user XHTML+Voice browser to output speech and graphic.

6. A multimodal service method using a system that comprises a user terminal equipped with an XHTML+Voice browser having a VoiceXML-to-XHTML+Voice converter, and a web server
15 providing a VoiceXML document, and converts a VoiceXML document into an XHTML+Voice document, the method comprising the steps of:

 executing the XHTML+Voice browser and requesting the web server to provide the VoiceXML document by submitting HTTP request, at the user terminal;

20 transmitting the corresponding VoiceXML document to the XHTML+Voice browser from the web server;

 creating a VoiceXML tree from the received VoiceXML document at a VoiceXML parser of the XHTML+Voice browser, and transmitting the created VoiceXML tree from the VoiceXML parser to a VoiceXML-
25 to-XHTML+Voice converter;

converting the received VoiceXML tree into a new XHTML+Voice tree by means of a predetermined algorithm at the VoiceXML-to-XHTML+Voice converter; and

interpreting and executing the XHTML+Voice document at an
5 XHTML+Voice renderer to output speech and graphic.

7. A multimodal service system that comprises a user terminal equipped with an XHTML+Voice browser, a proxy server and a web server providing a VoiceXML document, the proxy server
10 being equipped with a transcoder, wherein the transcoder comprises:

a VoiceXML parser for generating a VoiceXML tree;

a VoiceXML-to-XHTML+Voice converter for implementing a predetermined conversion algorithm; and

15 an XHTML+Voice document generator for converting an XHTML+Voice tree into an XHTML+Voice document.

8. A multimodal service system that comprises a user terminal equipped with an XHTML+Voice browser, and a web server
20 providing a VoiceXML document, wherein the XHTML+Voice browser comprises:

a VoiceXML parser for generating a VoiceXML tree from a VoiceXML document;

a VoiceXML-to-XHTML+Voice converter for generating
25 XHTML+Voice tree from the VoiceXML tree according to a

predetermined conversion algorithm; and

an XHTML+Voice renderer for executing the XHTML+Voice tree.

9. The system of claim 8, wherein a speech service
5 provided through the XHTML+Voice browser is browsed as a
multimodal service; and

in the speech service, one of a speech input/output use mode
and a speech input/output cancel mode can be selected.

10 10. The system of claim 7, wherein the VoiceXML-to-
XHTML+Voice converter scans the VoiceXML tree from an upper tag
to a lower tag with checking a tag, if the tag is <menu>,
converts the tag <menu> into a tag <a> of the XHTML, if the tag
is <grammar>, converts the tag <grammar> into a tag <input type =
15 radio> of the XHTML, and if the tag is <form>, adds the tag
<form> of XHTML to the XHTML tree and processes the tag <form>.

11. The system of claim 8, wherein the VoiceXML-to-
XHTML+Voice converter scans the VoiceXML tree from an upper tag
20 to a lower tag with checking a tag, if the tag is <menu>,
converts the tag <menu> into a tag <a> of the XHTML, if the tag
is <grammar>, converts the tag <grammar> into a tag <input type =
radio> of the XHTML, and if the tag is <form>, adds the tag
<form> of XHTML to the XHTML tree and processes the tag <form>.

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